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EXAMINER	
JEAN GILLES, JUDE	

ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,325	ENNS ET AL.	
	Examiner	Art Unit	
	Jude J Jean-Gilles	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to communication filed on 06/28/2001.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 7, 10, 11 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1: Claim 1 recites the limitation " the link level" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 7: Claim 7 recites the limitation " the plurality of channels " in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 10: Claim 10 recites the limitation " the data base" in line 1. There is insufficient antecedent basis for this limitation in the claim. Applicant is advised to make claim 10 dependent on claim 8 instead of claim 7 as claim discloses the new limitation.

Regarding claim 10: Claim 10 recites the limitation " the first IP modem " in line 2. There is insufficient antecedent basis for this limitation in the claim. Applicant is advised to make claim 10 dependent on claim 8 instead of claim 7 as claim discloses the new limitation.

Regarding claim 10: Claim 10 recites the limitation " the plurality of channels " in line 7. There is insufficient antecedent basis for this limitation in the

claim. Applicant is advised to make claim 10 dependent on claim 8 instead of claim 7 as claim discloses the new limitation.

Regarding claim 11: Claim 11 recites the limitation " the data base" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 11: Claim 11 recites the limitation " the primary network" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 15: Claim 11recites the limitation " the network so call control and management" in line 12. The phase "network so call control and management" is confusing, as it does not clearly define the meaning of such control and management. The applicant discloses in the "brief description of the preferred embodiment" section of this application the phrase "configuring the network so call control and management" without explaining its meaning. The applicant needs to disclose any information that may make the "network so call control and management" different from a network control and management system. This information is important to one of ordinary skill in the art to make use of this invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5and 12 are rejected under 35 U.S.C. 102(e) as being unpatentable by Rai et al (U.S. 6,675,208 B1).

Regarding claim 1: Rai et al teach a network system having STAR topology (fig. 6) comprising:

a hub site (fig. 6, item 84; column 11, lines 57-61); and

at least one remote site (fig. 6, item 82; column 11, lines 57-61);

wherein call control and management between the hub site and the remote site use Internet Protocol (IP) addressing and HDLC addressing at the link level for identification thereby allowing only a desired remote site to read data transmitted (column 15, lines 3-4; Note that the base stations support IP over PPP instead of frame relay with HDLC links using point to point T1 or fractional T3; Specifically, for a T1 trunk a high level data link control (HDLC protocol) is preferably used over the T1 as per column 14, lines 6-10).

Regarding claim 2: Rai et al teach the network system of claim 1 that further comprises a plurality of remote sites (column 11, lines 57-58; fig. 6, item 82).

Regarding claim 3: Rai et al teach the network system of claim 2 that further comprises:

a first communication channel to transmit data to the plurality of remote sites (column 2, lines 45-50); and

a plurality of second communication channels to transmit data from the plurality of remote sites to the hub (fig. 6, point to point T1 link to remote access points, item 82R).

Regarding claim 5: Rai et al teach the network of claim 1 but fail to teach a network wherein the at least one remote site comprises a remote modem for continuously receiving data from the hub site and for transmitting data when required.

Rai et al (fig 2, item 36) teach an end-user remote modem, used for receiving and transmitting data to and from each remote network.

Regarding claim 12: Rai et al teach a network system having STAR topology and which allows on demand single hop connectivity between remote sites comprising:

a hub site (fig. 6, item 84; column 11, lines 57-61);

a plurality of remote sites (fig. 6, item 82; column 11, lines 57-61);

a first channel for sending data from the hub site to all of the plurality of remote sites (column 2, lines 45-50);

a plurality of second channels for transmitting data from each of the plurality of remote sites to the hub site and for transmitting data between the plurality of remote sites (fig. 6, point to point T1 link to remote access points, item 82R);

wherein call control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification (column 12, lines 46-50).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4, 6-10, 13-15, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rai et al (U.S. 6,675,208 B1) in view of Krishnamurthy et al (U.S. 6,389,464 B1).

Regarding claim 4: Rai et al teach the network of claim 1 but fail to teach a hub site that comprises:

a first IP modem for receiving and transmitting data to and from the hub site and for maintaining a network database; and

at least a second IP modem for receiving data from a remote site.

However, Krishnamurthy et al (column 6, lines 28-31; fig. 3, item 60) disclose a first IP server modem for receiving and transmitting data to and from the hub site and for maintaining a network database (column 6, lines 58-65). Rai et al (fig 2, item 36) teach a second IP modem, connected to the end user remote site, used for receiving and transmitting data to and from a hub.

Rai et al disclose a network system having a STAR topology that comprises a hub site, one or more remote sites. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to use

Krishnamurthy et al's first server modem as the first IP modem, and Rai et al's second remote site modem as the second IP modem, and to incorporate both modems into Rai et al's network system to receive and transmit data.

Krishnamurthy et al teach that it is old and well known in the computer networking art to get the advantage of modem in a network to convert digital signals to analog and vice versa. An artisan in the networking art at the time of the invention would have been motivated to include IP modems in both, the hub site and the remote site to get this advantage in a network environment.

Regarding claim 6: Rai et al teach a network system that comprises a hub site (fig. 6, item 84; column 11, lines 57-61) and a plurality of remote sites (fig. 6, item 82; column 11, lines 57-62), but fail to disclose a satellite for transmitting data. Krishnamurthy et al teach a satellite for transmitting data to and from the hub site and the remote site (column 6, lines 17-21; Note that the site server (the hub) that manages a satellite system, a satellite modem, a switch and a channel service/data service).

Rai et al further teach the above hub site wherein call control and management between the hub site and the remote site use Internet Protocol (IP) addressing and HDLC addressing for identification (column 15, lines 3-4; Note that the base stations support IP over PPP instead of frame relay with HDLC links using point to point T1 or fractional T3; Specifically, for a T1 trunk a high level data link control (HDLC protocol) is preferably used over the T1 as per column 14, lines 6-10).

Rai et al disclose a network system that comprises a hub site, one or more remote sites using IP and HDLC. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to combine Krishnamurthy et al's satellite system with Rai et al's network system in order to receive and transmit data efficiently to and from the hub site and the remote site.

Krishnamurthy et al and Rai et al teach that it is old and well known in the computer networking art to get the advantage of a satellite communication system to receive and transmit data to and from the hub site. One of ordinary skill in the art at the time of the invention would have been motivated to include a satellite in the system to get this advantage in a network environment.

Regarding claim 7: Krishnamurthy et al teach a network system in accordance to claim 6 but fail to disclose a plurality of channels that comprises: a first communication channel to transmit data to the plurality of remote sites; and a plurality of second communication channels to transmit data from the plurality of remote sites to the hub.

Rai et al teach a first channel for sending data from the hub site to all of the plurality of remote sites (column 2, lines 45-50); a plurality of second channels for transmitting data from each of the plurality of remote sites (fig. 6, point to point T1 link to remote access points, items 82R);

Krishnamurthy et al disclose a satellite network to transmit data to and from the hub site. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to combine Rai et al's communications channels

to remote sites with Krishnamurthy et al's satellite network system in order to receive and transmit data to and from the hub efficiently.

Rai et al teach that it is old and well known in the computer networking art to get the advantage of communications channels to corresponding remote network sites to transmit and receive data to and from the hub site. One of ordinary skill in the art at the time of the invention would have been motivated to include the network channels to remote network sites to get this advantage in a network environment.

Regarding claim 8: Rai et al et teach the new limitations of claim 7, but fail to teach a hub site that comprises a first IP modem for receiving and transmitting data to and from the hub site and for maintaining a network database. Rai et al (fig 2, item 36) further teach at least one second IP modem for receiving data from a remote site in the network. However, Krishnamurthy et al (column 6, lines 28-31; fig. 3, item 60) disclose a first IP server modem for receiving and transmitting data to and from the hub site and for maintaining a network database (column 6, lines 58-65).

Rai et al disclose a network system that comprises a hub site, one or more remote sites and at least one second IP modem for receiving data from the remote site. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to use Krishnamurthy et al's first server modem as the first IP modem, and Rai et al's second remote site modem as the second IP modem, and to incorporate both modems into the network system. One modem

will be placed at the hub and at least, another at a remote site to transmit and receive data.

Krishnamurthy et al teach that it is old and well known in the computer networking art to get the advantage of modems in a network to convert digital signals to analog and vice versa. An artisan in the networking art at the time of the invention would have been motivated to include IP modems in both, the hub site and the remote site to get this advantage in a network environment.

Regarding claim 9: Rai et al and Krishnamurthy et al teach the network of claim 7 but fail to teach a network wherein the at least one remote site comprises a remote modem for continuously receiving data from the hub site and for transmitting data when required.

Rai et al (fig 2, item 36) teach a plurality of remote sites modems, connected to the end user remote site, used for receiving and transmitting data to and from a hub.

Krishnamurthy et al disclose a network system that comprises a hub site, one or more remote sites and a satellite. It would have been obvious for an ordinary skill in the art at the time of applicant's invention combine the remote site with Rai et al's remote modems and integrate them into the hub to receive and transmit data efficiently in the network.

Rai et al teach that it is old and well known in the computer networking art to get the advantage of modem in a remote site to convert analog signals to digital and vice versa. An artisan in the networking art at the time of the invention

would have been motivated to include remote modem in the remote network to get this advantage in a network environment.

Regarding claim 10: Rai et al teach the network with a first channel in claim 7 to be able to send data from the hub to the remote sites, but fail to disclose a network wherein the data base stored in the first IP modem maintains a listing of all the plurality of channels in the network; a listing of destination IP addresses and destination HDLC addresses for each of the plurality of channels; a listing of a guaranteed minimum available bandwidth of each of the plurality of channels and a listing of a maximum allowable bandwidth of each of the plurality of channels.

Krishnamurthy et al (fig. 3, item 72; column 6, lines 41-44) disclose a Management Information Base (MIB) that is dedicated to manage the site server, in connection with the modem, using a MIB table. In addition another database, a relational database (fig 3, items 80; column 6, lines 58-65) is provided for storing configuration data which, when used in connection with the MIB files, allows the management of a plurality of devices. It is inherent that the functions of the database comprise the storing, and listing of data on the many channels of the system.

Rai et al disclose a network system that comprises a hub site; one or more remote sites connected with a plurality of communications channels. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to integrate Krishnamurthy et al's databases into the first IP modem in

the Hub for data listing and bandwidth management of the plurality of channels in the network.

Krishnamurthy et al teach that it is old and well known in the computer networking art to get the advantage storing network management data in an IP modem to facilitate data exchange between the hub site and the remote sites. An artisan in the networking art at the time of the invention would have been motivated to include the database in the modem to get this advantage in a network environment.

Regarding claim 13: Rai et al teach the network of claim 12 but fail to teach a network wherein the hub site comprises:

a first IP modem for receiving and transmitting data to and from the hub site and for maintaining a network database;

at least a second IP modem for receiving data from a remote site;

and a single hop server for configuring channels to transmit data directly between different remote sites.

However, Krishnamurthy et al (column 6, lines 28-31; fig. 3, item 60) disclose a first IP server modem for receiving and transmitting data to and from the hub site and for maintaining a network database (column 6, lines 58-65). Rai et al (fig 2, item 36) teach a second IP modem, connected to the end user remote site, used for receiving and transmitting data to and from a hub.

Krishnamurthy et al (fig.2, items 12a, 12b, 12c; column 5, lines 60-64) further teach a site server that is functionally equivalent to a single hope server for configuring channels to transmit data directly between remote sites.

Rai et al disclose a network system having a STAR topology that comprises a hub site, and one or more remote sites. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to incorporate Krishnamurthy et al's first IP modem, second IP modem, and the single hop server into Rai et al's network system to receive and transmit data.

Krishnamurthy et al teach that it is old and well known in the computer networking art to get the advantage of modem in a network to convert digital signals to analog and vice versa. An artisan in the networking art at the time of the invention would have been motivated to include IP modems in both, the hub site and the remote site, as well as the single hop server, to get this advantage in a network environment.

Regarding claim 14: Rai et al teach the network of claim 12, but fail to teach a network wherein each of the plurality of remote sites comprises a first remote modem for continuously receiving data from the hub site and for transmitting data when required. Rai et al (fig 2, item 36) further teach a second remote modem for receiving data sent from a different remote site in the network. However, Krishnamurthy et al (column 6, lines 28-31) disclose a first remote modem receiving data from the hub site.

Rai et al et al disclose a network system that comprises a hub site, one or more remote sites with remote modems. It would have been obvious for an ordinary skill in the art at the time of applicant's invention combine Rai et al's hub modem with Krishnamurthy et al's remote modems and integrate them into the hub to receive and transmit data efficiently in the network.

Rai et al and Krishnamurthy teach that it is old and well known in the computer networking art to get the advantage of modem in remote sites and hub sites, to convert analog signals to digital and vice versa in a network. An artisan in the networking art at the time of the invention would have been motivated to include IP modems in network to get this advantage.

Regarding claim 15: Rai et al teach a method for allowing a network system having STAR topology (fig. 6) to perform on demand single hop connectivity between remote sites. Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system (fig. 2; items 12a-c; column 5, lines 60-64). Krishnamurthy et al further teach a network that provides a first remote modem at each remote site for continuously receiving data from the hub site and for transmitting data when required (column 6, lines 28-31). Rai et al teach a network that provides a second remote modem at each remote site that receives data from a second remote site for receiving data sent from a different remote site (fig. 2, item 36). Rai et al, from the same field of endeavor teach a step of configuring the network control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification (column 12, lines 46-50); and configuring a direct channel between remote sites that are communicating to transmit the data (column 2, lines 45-54).

It would have been obvious for an ordinary skill in the art at the time of applicant's invention to combine Krishnamurthy et al hop server and first remote modem with Rai et al second remote modem, network and channel configuration

in order to create the method disclosed by the current invention for efficient network management and configuration.

Krishnamurthy et al and Rai et al teach that it is old and well known in the computer networking art to get the advantage of reliable access to remote network data by a hub site. An artisan in the networking art at the time of the invention would have been motivated to modify the remote sites to include the modems and the above mentioned configuration to get this advantage in a network environment.

Regarding claim 17: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system, but fails to teach the step of configuring a direct channel between remote sites that are communicating comprises the steps of using an existing HDLC address when the second remote site is configured to receive a maximum number of HDLC addresses.

Rai et al teach the steps of configuring a data link to create a channel between an end system and some foreign server or remote sites using HDLC address and receiving a number of addresses (fig. 14; column 18, lines 29-33; column 19, lines 51-67).

It would have been obvious for an ordinary skill in the art at the time of applicant's invention to combine Krishnamurthy et al hop server and first remote modem with Rai et al second remote modem, network and channel configuration in order to create the method disclosed by the current invention for efficient network management and configuration.

Rai et al teach that it is old and well known in the computer networking art to get the advantage of addressing and configuring direct channel remote sites to. An artisan in the networking art at the time of the invention would have been motivated to configure the remote sites to use an existing HDLC address based on the maximum number of HDLC addresses, to get this advantage in a network environment.

Regarding claim 18: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system, but fails to teach the step of monitoring for a timeout to determine an end of transmitting data.

Rai et al teach the method of monitoring the connection to determine end of connection to the end system (column 19, lines 19-23, 51-56).

It would have been obvious for an ordinary skill in the art at the time of applicant's invention to combine Krishnamurthy et al hop server and first remote modem with Rai et al end of transmission acknowledgement in order to create the method disclosed by the current invention for efficient monitoring.

Rai et al teach that it is old and well known in the computer networking art to get the advantage of monitoring end of data transmission for a better data control in the system. An artisan in the networking art at the time of the invention would have been motivated to use the acknowledgement and monitoring mechanism to terminate transmission of data to get this advantage in a network environment.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai et al (U.S. 6,675,208 B1) in view of Krishnamurthy et al (U.S. 6,389,464 B1), and further in view of Dillon (U.S. 6,671,741 B1).

Regarding claim 11: The combination of Rai et al and Krishnamurthy et al teach the network of claim 10 but fail to disclose a network wherein the data base stored in the primary network control modem maintains a listing of encryption capability of each channel.

Krishnamurthy et al (fig. 3, item 72; column 6, lines 41-44) disclose a Management Information Base (MIB) that is dedicated to manage the site server, in connection with the modem, using a MIB table. In addition another database, a relational database (fig 3, items 80; column 6, lines 58-65) is provided for storing configuration data which, when used in connection with the MIB files, allows the management of a plurality of devices.

Dillon (column 10, lines 60-63) teaches a DES encryption based conditional access that ensures that a receiver PC may only access data it is authorized to receive.

Rai et al and Krishnamurthy et al disclose a network system that comprises a hub site; one or more remote sites connected with a plurality of communications channels with modems. It would have been obvious for an ordinary skill in the art at the time of applicant's invention to use Dillon's DES based encryption in the primary network modem of Krishnamurthy et al and to keep a listing of the encryption capability of each channel in the database.

Dillon et al and Krishnamurthy et al teach that it is old and well known in the computer networking art to get the advantage storing encryption capability of each channel in the IP modem database to enhance reliability. An artisan in the networking art at the time of the invention would have been motivated to include the list of encryption capability in the modem database to get this advantage in a network environment.

8. Claims 16, 19-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rai et al (U.S. 6,675,208 B1) in view of Krishnamurthy et al (U.S. 6,389,464 B1), and further in view of Gerszberg et al (U.S. 6480, 748 B1).

Regarding claim 16: The combination of Rai et al and Krishnamurthy et al teach the method of claim 15, but fail to teach all the limitations of claim 16. Gerszberg et al (column 11, lines 27) teach the step of configuring a direct channel between remote sites that are communicating comprises by sending a signal from a first remote site to the hub site requesting a single hop connection to a second remote site. Gerszberg et al (column 15, lines 3-4) further teach checking by the hub site to see if the second remote site is tuned to a carrier being transmitted by the first remote site; selecting an HDLC address from an available range (column 17, lines 41-46; Note that the voice signals here are sent through SDSL/cable carrier, multiplex, and sent to the TDM MUX). Additionally, Rai et al teach the steps of configuring the second remote site to add the selected IP HDLC address for receiving data; and configuring the first remote site to start using the selected IP HDLC address (column 17, lines 41-46). Therefore,

it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the steps of sending and receiving a signal from remote sites to the hub site with configuring the remote site addressing in order to perform intelligent multiplexing and advanced signal processing.

Gerszberg et al teach that it is old and well known in the computer networking art to get the advantage of sending a signal to the hub site requesting a single hop connection to another remote site, and checking the host to enhance the transmission capability of the network. An artisan in the networking art at the time of the invention would have been motivated to include the steps of configuring the remote sites to get this advantage in a network environment.

Regarding claim 19: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system. Rai et al, from the same field of endeavor teach a steps of configuring the network so call control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification. However, they both fail to teach a network with the single hop server that can preempt an existing connection to allow a higher priority connection to proceed.

Gerszberg et al (column 18, lines 1-5, 20-30) teach a network that gives priority of voice over data transmission. Voice packets are simply given priority over data packets, as the channel is de-allocated from data usage to voice usage. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate into the single hop server the preemptive connection for higher priority, in order to prioritize signal processing.

Gerszberg et al teach that it is old and well known in the computer networking art to get the advantage of requesting preemptive data transmission in a single hop connection to enhance the transmission capability of the network. An artisan in the networking art at the time of the invention would have been motivated to include the steps of prioritizing the channels to get this advantage in a network environment.

Regarding claim 20: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system. Rai et al, from the same field of endeavor teach a steps of configuring the network so call control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification. However, they both fail to teach a network with the single hop server can queue a request until a remote modem at a desired remote site becomes available.

However, Gerszberg et al (column 17, lines 20-23) teach a processor that can be configure to discriminate between various forms of traffic and to route this traffic to an appropriate device. Gerszberg et al further teach the use modem protocols to confirms that the devices use for this traffic can, in fact be remote modems (column 17, lines 55-58). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate into the single hop server the ability to queue a request for modem availability, in order to improve information processing.

Gerszberg et al teach that it is old and well known in the computer networking art to get the advantage of queuing data for transmission in a single

hop connection for efficiency and to reduce cost metrics. An artisan in the networking art at the time of the invention would have been motivated to include the steps of creating a queue for modem availability to get this advantage in a network environment.

Regarding claim 22: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system. Rai et al, from the same field of endeavor teach a steps of configuring the network so call control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification. However, they both fail to teach a network with the single hop server that can dynamically adjust transmit power of a carrier for single-hop remote to remote connection to compensate for smaller antenna size at the remote sites.

However, Gerszberg et al (column 26, lines 39-52) teach a remote RF receiver that receives a signal, enhances the signal reception and transmit the signal to an IR receiver at another remote location. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate into the single hop server the ability to dynamically adjust transmit power of a carrier to compensate for smaller antenna size at a remote site.

Gerszberg et al teach that it is old and well known in the computer networking art to get the advantage of dynamically adjusting power of a carrier to compensate for smaller antennas at remote sites. An artisan in the networking art at the time of the invention would have been motivated to include this adjustment mechanism to get this advantage in a network environment.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rai et al (U.S. 6,675,208 B1) in view of Krishnamurthy et al (U.S. 6,389,464 B1), and further in view of Borret et al (U.S. 6,477,568 B2).

Regarding claim 21: Krishnamurthy et al disclose that the network provides a single hop server at a hub site of the network system. Rai et al, from the same field of endeavor teach a steps of configuring the network so call control and management between the hub site and the remote sites and between different remote sites use Internet Protocol (IP) addressing for identification. However, they both fail to teach a network system that seamlessly changes topology to support application demand without human intervention and without causing loss of connectivity for current traffic.

However Borret et al (column 1, lines 60-65) disclose "a network that automatically implement re-routing of trails in a communications network, in particular re-routing which becomes necessary or desirable as a result of topological changes to a network, for example addition or deletion of a node entity". Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate into the single hop server network the ability to seamlessly change topology without human interaction and without loss of connectivity, in order to improve data processing.

Borret et al teach that it is old and well known in the computer networking art to get the advantage of seamless topology change in a network to support application demand in a network. An artisan in the networking art at the time of

the invention would have been motivated to include the automatic network topology change to get this advantage in a network environment.

Conclusion

10. Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (703) 305-0269. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Jude Jean-Gilles

Patent Examiner

Art Unit 2143

JJG

August 25, 2004

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